

REMARKS

Claims 1-40 are currently pending in the subject application and are presently under consideration. Claims 1, 18, 24, 29, 33 and 35-40 have been amended as shown at pages 2-10 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Entry of Amendments

The Examiner is respectfully asked to enter the proposed amendments, as such amendments are intended solely to clarify claim language in view of remarks from the Final Office Action dated February 25, 2009 and do not impact the rejections based in obviousness. Applicants' representative believes the amendments herein require only cursory review and can appropriately be entered after final rejection. *See* MPEP §714.13.

II. Rejection of Claims 1-23, 35 and 38 Under 35 U.S.C. §112

Claims 1-23, 35 and 38 stand rejected under 35 U.S.C. §112 for failing to comply with the enablement requirement. Particularly, the Office Action dated February 25, 2009 asserts that the "multi-dimensional software objects" are unclear in scope. This rejection should be withdrawn for at least the following reasons. The subject claims have been amended to overcome this rejection, and the Application provides sufficient recitation of these features to enable practice of the subject claims.

The subject claims relate, in part, to facilitating display and control across a variety of platforms. Some platforms may have different capabilities than others. Accordingly, certain contexts may favor a two-dimensional view, while others may utilize a richer three-dimensional view. *See e.g.* Detailed Description, page 12, lines 16-19. While the particular embodiment discussed relates to two- and three-dimensional displays, the concept of a multi-dimensional display is implied by and inherent to this embodiment. For example, if a system employs both two- and three-dimensional objects simultaneously (*See e.g.* Detailed Description, page 12, lines 26-27), it is appropriately said to display multi-dimensional objects. Alternatively, the system employs an object characterized by two or more dimensions (*See e.g.* Detailed Description, page

12, lines 16-19), it is also proper to state that the system employs multi-dimensional objects. Both cases are properly embraced and supported by the discussion in the specification.

The Office Action dated February 25, 2009 notes that the multi-dimensional objects are what is rendered, rather than what performs the rendering. To clarify these aspects, claims 1, 18, 35 and 38 have been amended.

In addition, claims 29-34 stand rejected as failing to comply with the enablement requirement. Particularly, claim language relating to “multi-dimensional object structure” and “multi-level hierarchical attributes” are identified as lacking recitation in the Application. However, as discussed *supra*, these features represent inherent aspects of the disclosed embodiments. The specification discloses the use of nested data structures to represent, for example, process points in a control architecture. *See e.g.* Detailed Description, page 17, lines 2-5. These process points can be associated with and represented by multiple-dimension software objects. *See e.g.* Detailed Description, page 17, lines 5-10. Therefore, a “multi-dimensional object structure” is enabled by the specification. Likewise, the Application discusses the use of a “drill down” feature, allowing users to increase the level of detail or zoom to particular points in an enterprise. Introducing this aspect, this technique of employing variable levels of granularity is described as allowing a user to “navigate through the factory hierarchy.” *See e.g.* Summary, page 3, line 26 to page 4, line 7. Accordingly, this terminology is supported in the Application and readily understood by those skilled in the art.

III. Rejection of Claims 1-40 Under 35 U.S.C. §101

Claims 1-40 stand rejected under 35 U.S.C. §101 for being directed toward non-statutory subject matter. Specifically, the Office Action asserts both the systems and methods of the rejected claims comprise software *per se*. This rejection should be withdrawn for at least the following reason. Independent claims 1, 18, 24, 29, 33 and 35-40 have been amended to overcome this rejection. In particular, these claims have been amended to recite either *employing a processor executing computer executable instructions stored on a computer readable storage medium; or a processor; [and] a memory communicatively coupled to the processor, the memory having stored therein computer-executable instructions configured to implement the system*. Accordingly, withdrawal of rejection of independent claims 1, 18, 24, 29, 33 and 35-40 (and all claims that depend therefrom) is respectfully requested.

IV. Rejection of Claims 24, 36-37 and 39-40 Under 35 U.S.C. §103(a)

Claims 24, 36-37 and 39-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wolff *et al.* (U.S. Patent No. 2003/0120714). Withdrawal of the rejection is respectfully requested for at least the following reasons. Wolff *et al.* fails to suggest all the features of independent claims 24, 36-37 and 39-40.

The subject application relates to services for providing flexible and powerful Human Machine Interfaces (HMIs) for industrial control systems. These HMIs are flexible in that they overcome the limitations of discrete legacy systems which may be lack compatibility among one another in part or whole. Services are provided to utilize available hardware and content to auto-generate compatible code. The standard inputs of each system can be employed to render substantially similar HMIs on otherwise disparate platforms. Rendering can reach a level of detail that emulates the physical controls common to a system (e.g. dials, gauges, sliders). The rendering can also, for example, display system changes as they occur. A further feature provides for what is termed a “view anywhere” service, which includes multi-dimensional objects that allow a facility to be navigated both in terms of a plurality of distinct systems (or even facilities) as well as various hierarchical levels within single systems. This allows a user to view a system or plurality of systems at an optimal resolution for specific purposes. The HMIs rendered in conjunction with these management aspects provide users appropriate power coincident with the capabilities of both the controls and the systems being controlled. The resultant data can be administered automatically or by the user to provide feedback in an optimal format for the desired purposes.

To this end, claim 24 recites, in part: *converting 3-dimensional data into 2-dimensional data or vice versa based at least in part on properties, limitations, software plug-ins of the device, or any combination thereof; [...] and presenting views associated with a corresponding zoom level.* Wolff *et al.* does not make obvious these and other features of the subject claims.

Wolff *et al.* relates to machine vision systems, and more particularly, to human machine interfaces (HMIs) for training, controlling, and monitoring machine vision system sensors and methods for installing and configuring such interfaces. The cited reference discloses receipt of data in a desired portable device compatible format and utilizing an image compression technique to enhance the detail of an image to an appropriate gray or contrast level. There is no

suggestion in Wolff *et al.* of *converting 3-dimensional data into 2-dimensional data or vice versa based at least in part on properties, limitations, software plug-ins of the device, or any combination thereof*. The Final Office Action dated February 25, 2009 asserts Wolff *et al.* discloses “a factor and scales the image based on the interface the image is being presented on,” and therefore suggests multi-dimensional conversion. However, this reading is too broad. Nowhere does Wolff *et al.* discuss varying the number of dimensions an object is modeled in. Nor does Wolff *et al.* explicitly recite “scaling” of data for a device. At best, Wolff *et al.* relates to preparing data for display on a resident module usable on a variety of devices. Data preparation can include adjusting resolution and formatting for read speed. However, Wolff *et al.* does not speak to, and fails to make obvious, *converting 3-dimensional data into 2-dimensional data or vice versa based at least in part on properties, limitations, software plug-ins of the device, or any combination thereof*. Nor does Wolff *et al.* suggest *presenting views associated with a corresponding zoom level*. Zoom level is distinct from resolution. Higher resolution can facilitate more detailed zooming. Wolff *et al.* is concerned only with making a one-step resolution adjustment to enable more convenient use on a given device. To interpret this as *presenting views associated with a corresponding zoom level* is to read Wolff *et al.* too expansively. Accordingly, it is apparent that Wolff *et al.* does not disclose or suggest all claimed aspects, and therefore it is respectfully submitted that rejection of independent claims 24 should be withdrawn and the subject claims allowed.

Claim 36 also recites features not made obvious by Wolff *et al.* Particularly, claim 36 recites *mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI); [...] and creating a software object that represents the I/O interface with the physical device*. Wolff *et al.* fails to disclose these and other features of independent claim 36.

As discussed above, Wolff *et al.* seeks to adjust data for appropriate use on lower-resolution platforms. The cited reference does not discuss *mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI)*. Nor does Wolff *et al.* disclose *creating a software object that represents the I/O interface with the physical device* as employed by the subject claims. Wolff *et al.* merely reduces an existing object rather than creating or emulating new objects. Further, Wolff *et al.* does not suggest reducing dynamic or active content such as emulated controls.

Rather, Wolff *et al.* only suggests reducing static content for ease of viewing on different devices. Accordingly, it is apparent that Wolff *et al.* does not disclose or suggest all claimed aspects, and therefore it is respectfully submitted that rejection of independent claims 36 should be withdrawn and the subject claims allowed.

Independent claims 37 and 39-40 recite features similar to those discussed in claim 24 above. Specifically, claim 37 recites: *means for formatting data to one or more multi-dimensional objects based at least in part on the properties, limitations, or software plug-ins of the devices; and means for delivering the formatted data to the respective devices by mapping data path information for the delivered data to the respective devices to enable communication between the data and a Human Machine Interface (HMI).* Claim 39 recites: *means for generating at least one software object by determining properties associated with the devices intended for creation of the software objects; [...] and means for creating the software object that represents the Input/Output (I/O) interface with the device.* Claim 40 recites: *means for presenting 3-dimensional data as 2-dimensional data or vice versa based at least in part on properties, limitations, software plug-ins of the device, or any combination thereof; means for displaying data in a plurality of disparate views; and means for associating respective views with a corresponding zoom level.* For reasons similar to those discussed above, Wolff *et al.* fails to suggest these and other features of claims 37 and 39-40. Accordingly, the rejection of these claims should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP314US]

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
TUROCY & WATSON, LLP

/Thomas E. Watson/
Thomas E. Watson
Reg. No. 43,243

TUROCY & WATSON, LLP
57TH Floor, Key Tower
127 Public Square
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731